

## 1.1 Project Scope

The original source for City policies regarding bicycle usage was the Bike Route Element of the 1975 General Plan. This element was adopted “to provide for the safe convenient use of bicycles throughout the community for both recreational use, and as a good alternative to the automobile as a form of local transportation.” This element defined the basis for all later bikeway development efforts.

The City developed its first bikeway master plan in 1996. It established the types of facilities that should be implemented within the City and identified the need to integrate with the existing system of regional bikeways in the San Diego metropolitan area:

*“The rapid expansion of not only the City, but also its surrounding areas necessitated an update of the Bikeway Master Plan to better serve the needs in the future. The Bikeway Master Plan is intended to determine not only the local travel needs, but to serve regional long-distance travel needs as well.”*

This original master plan was replaced by a new one prepared by KTU+A Planning + Landscape Architecture, adopted in January 2005. The project scope was to provide a:

*“...new Bikeway Master Plan that will identify existing facilities and bicycle deficiencies throughout the City, along with cost estimates to make improvements. The objective of the new Bikeway Master Plan is to review and make recommendations as to how the current bikeway network within the City planning area can be updated to best suit the needs of the City now and in the future.”*

The project scope therefore included documenting and evaluating Chula Vista’s existing bikeway facility system and its relationship with other systems such as public transit and recommending improvements wherever appropriate. This resulting document incorporated expected General Plan changes that would affect circulation patterns.

By law, cities are to adopt their bikeway master plans (termed “Bicycle Transportation Plans” by the California Department of Transportation) no earlier than five years prior to July 1 of the fiscal year in which the state’s Bicycle Transportation Account (BTA) funds are to be granted. (For example: With the 2010/2011 fiscal year beginning on July 1, 2010, cities applying for 2010/2011 BTA funds must have a bikeway master plan adopted January 1, 2005 or later.) This five year cycle is intended to make certain that Chula Vista’s 2005 General Plan changes affecting bicycle transportation will be accommodated in a timely manner.

## Chapter

# 1



## 1.2 Project Study Area

The project study area was the City of Chula Vista and its planning sphere of influence of the surrounding communities and unincorporated County areas. Adjoining areas' bicycle systems were evaluated for opportunities as connections with Chula Vista's and to extend the regional network via Chula Vista's bikeway system. (See Figure 1: Existing Bicycle Facilities.)

## 1.3 Methodology

The project methodology included a review of applicable documents, field work, two public meetings, two local agency meetings, an on-line survey questionnaire and geographic information systems (GIS) analysis of the field work data. Chula Vista's existing bikeway system was analyzed for a number of factors using both traditional field survey and GIS techniques.

### 1.3.1 Literature Review

Applicable sections of documents related to Chula Vista's bikeway system are excerpted in Chapter 2. These include the City of Chula Vista's General Plan and Bikeway Master Plan, as well as neighboring community, regional and state plans and guidelines.

### 1.3.2 Field Work

During the initial field work, consultant staff members drove many mapped routes to verify accuracy with respect to the regional GIS bikeway mapping data received from the San Diego Association of Governments (SANDAG). Consultant staff also rode many of these routes, especially those that did not appear to be consistent with the data. These discrepancies were often discontinuous routes or route extensions that had not yet been incorporated into the SANDAG data base. Overall, the data base was fairly accurate, making development of an initial bikeway system data layer for the City relatively straightforward.

### 1.3.3 Current Bike Use

During field work, consultant staff witnessed bicycle use across the City of Chula Vista. Commuting cyclists were often seen on the major thoroughfares and adjoining sidewalks. Some recreational cyclists were seen at the bayfront and mountain bikers were often seen riding down into the canyons in the eastern portion of the City. It is possible that more use is evident during the early mornings and late afternoons when commuters and school children would be more likely to be using their bikes for transportation, as indicated by questionnaire results. There is also likely to be a greater weekend distribution of recreational cyclists across the City, but particularly in eastern Chula Vista where the roadways are wider, Class 2 bikeway facilities are more prevalent and arterials readily link singletrack trail segments in many of the canyons.



### 1.3.4 On-line Survey

The on-line survey was developed to reveal as much as possible about current user numbers, user types, preferred facility types and times of use. The survey was advertised to San Diego County Bike Coalition members via their regular e-mail newsletter and via the City web site. (See Section 3.5.4 and Appendix G: Public Input Summary.)

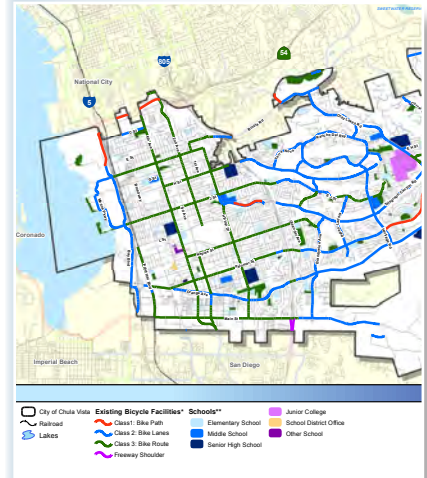
### 1.3.5 Geographic Information Systems

An industry textbook describes geographic information systems (GIS) as *“An organized collection of computer hardware, software, geographic data and personnel designed to efficiently capture, store, update, manipulate, analyze and display all forms of geographically referenced information.”* While this definition is technically accurate, it may be rather perplexing for the layperson. Basically, a GIS is a computerized map with various types of associated information attached to specific places on the map. Using a computer system configured for the purpose, a user can query the GIS about the place in question and selectively call up its associated information. A GIS is much more than just a computer system for making maps. It is an analytical tool that allows the user to identify spatial relationships between map features.

A GIS does not store a map in the conventional sense, nor does it store a particular image or view of a geographic area. Instead, a GIS stores the data from which a user can draw a desired view to suit a particular purpose. (The majority of the maps in this report were generated from a single data base compiled specifically for this project.) With a computer system capable of holding and using data describing specific features on a map, a user can overlay a number of related data layers to represent the many interrelated characteristics of the feature in question. The real value of GIS is its ability to overlay information from multiple sources over a map feature, often revealing relationships that would not otherwise have been noticeable. Land use data were acquired from SANDAG and roadway data from the City of Chula Vista.

Since both the City and the consultant routinely utilize GIS, the project scope called for the consultant to provide the City with a bikeway GIS coverage layer for incorporation into the City’s overall GIS data base. This allows the City to take advantage of its GIS capabilities to keep accurate records of existing bikeway conditions, to perform analyses and to develop future projects.

Consultant staff re-coded the SANDAG bikeway data to the City’s road centerline data to ensure the SANDAG bikeway data were joined to the most accurate roadway information so the City will have a viable bike facility coverage layer incorporated into its GIS system. In addition, if the City wishes, this information can be used to produce a bikeway map for general distribution.



## 1.4 Project Approach and Goals

The overall approach for this master plan is summarized in the following paragraphs. The approaches listed below also constitute the planning goals for this study.

- The bicycle master plan should be integrated into all transportation plans, especially if the proposed bicycle facilities will use general purpose roads shared with other forms of transportation. The planning efforts should include the integration of various modes of transportation including transfers between modes at transit centers and park and ride facilities.
- The aim of planning for bicycles should not be focused on any particular facility type so much as it should be focused on the safe and efficient travel of cyclists. This will generally require both the use of the existing transportation infrastructure and the construction of special facilities for cyclists.
- The maintenance of bicycle facilities and the monitoring and assessment of their performance are critical for ensuring safe and efficient travel for cyclists. Planning for cyclists is an ongoing process.
- The coexistence of cyclists and drivers on roads requires that both are sensitive to and recognize a common set of rules. Training, education and enforcement are as important as physical planning and design.
- It is imperative that a “bicycle perspective” guides any planning for cyclists. The bicycle has its own characteristics, constraints and opportunities that the planner must consider. This must be combined with the recognition that cyclists do not form a homogeneous group in terms of age, ability, experience or traffic judgment.
- An integration of land use planning and transportation planning is needed to support future projects that are not intensively dependent on the automobile. This study needs to take into account future land use and population projections and provide bicycle facilities to help decrease auto dependence.

## 1.5 Project Definitions

To prevent the confusion that can occur when referring to bikeways, bicycle lanes, bicycle routes, bicycle trails or bicycle paths, the California Department of Transportation (Caltrans) standard for referring to bikeway facility types is used throughout this document. (See the bikeway facility graphics and photos in the following Section 1.5.1)



### 1.5.1 Bikeway Facility Types

**Class 1 – Paved “Bike Path”** within an exclusive right-of-way, physically separated from vehicular roadways and intended specifically for non-motorized use

**Class 2 – Signed and striped “Bike Lane”** within a street right-of-way

**Class 3 – “Bike Route”** within a street right-of-way generally identified by signage only. In some cases, these routes may also be marked with shared lane markings, or “sharrows” where additional visual cues are appropriate. These are then referred to as “enhanced Class 3 routes.”

**Undesignated** - An additional category defined as locally recommended on-street routes that appear on area bikeway maps only

Note that these facility types are color-coded throughout this document to coincide with mapping depictions. Class 1 is shown as red, Class 2 as blue and Class 3 as green (See Figure 1, Existing Bikeway Facilities).

### 1.5.2 Non-standard Facilities

For bikeway facilities not yet included in the California *Manual on Uniform Traffic Control Devices* (CA MUTCD), the City should consult with Caltrans for locations within Caltrans right-of-way or when utilizing BTA funding. For other locations or funding sources, a FHWA request for experimentation is recommended (<http://mutcd.fhwa.dot.gov/condexper.htm>).

### 1.5.3 Associated Agencies

#### California Department of Transportation (Caltrans)

Caltrans is the state’s manager of interregional transportation services. Caltrans is responsible for the design, construction, maintenance and operation of the California State Highway System, as well as that portion of the Interstate Highway System within the state’s boundaries, including promoting the use of alternative modes of transportation.

#### Metropolitan Transit System (MTS)

MTS is comprised of the San Diego Trolley, Inc. (SDTI), the light rail transit (LRT) operator, San Diego Transit Corporation (SDTC), the major regional bus operators and the San Diego & Arizona Eastern (SD&AE) Railway Company, which owns more than a hundred miles of track and right-of-way. MTS provides transit services consisting of 82 bus routes and three trolley lines within the San Diego region directly or by contract with public or private operators. MTS has planned, designed and constructed three trolley lines in four corridors with other corridor projects in various stages of planning, engineering and construction.

## Class 1 - Bike Path



The edge of a bike path that is less than five feet from a road must have a physical barrier such as rails, dense shrubs or trees. (Caltrans Chapter 1000)

**Provides a completely separated right-of-way for the exclusive use of bicycles and pedestrians with cross-flow by motorists minimized.**

**Description:** Right-of-way separated from motor vehicle traffic. Used where adjacent roadway speeds and the volume of traffic is too high for safe shared use. Also used for connections through open space areas and parks, or where no other facility type is feasible.

### Design Guidelines:

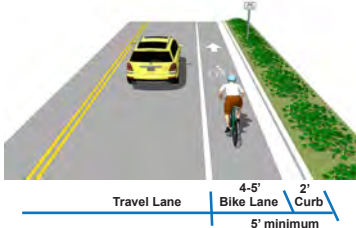
- Eight foot paved with two foot graded edge minimum width for two-way use. Greater width is recommended for high use corridors.
- Bike paths adjacent to a highway closer than five feet from the edge of the shoulder shall include a physical barrier (guard rail).

References:  
Caltrans Chapter 1000, California MUTCD (Revised 2006), MUTCD 2009

## Class 2 - Bike Lane



Colored bike lanes enhance the visibility of cyclists on bike lanes the bike lanes themselves. Color can be applied to the entire bike lane or at high-risk locations where motorists are permitted to merge into or cross bike lanes. This application is not yet approved by the CA MUTCD.



Bike Lane Marking



**Provides a striped lane for one-way bike travel on a street or highway.**

**Description:** Provides a striped lane for one-way bike travel on a street or highway. Installed along streets in corridors where there is significant bicycle demand, and where there are distinct needs that can be served by them. In streets with on-street parking, bike lanes are located between the parking area and the traffic lanes.

### Design Guidelines:

- Five foot minimum width for bike lanes located between the parking area and the traffic lanes.
- Four foot minimum width if no gutter or parking exists. Including a normal 2-foot gutter, the minimum bike lane width shall be 5 feet.

References:  
Caltrans Chapter 1000, California MUTCD (Revised 2006), MUTCD 2009

## Class 3 - Bike Route



Shared Lane Marking

"Sharrow"



**Provides for shared use of the roadway with motor vehicle traffic.**

**Description:** Within vehicular right-of-way, delineated by directional signage. Used where roadway speeds and traffic volume are fairly low and shoulder provides adequate room. Bike Routes indicate to bicyclists that there are particular advantages to using these routes as compared with alternative routes. A shared lane marking or 'Sharrow' may be added to guide the cyclist in correct lane placement in higher traffic or parking turnover conditions and to warn motorists of bicycle presence.

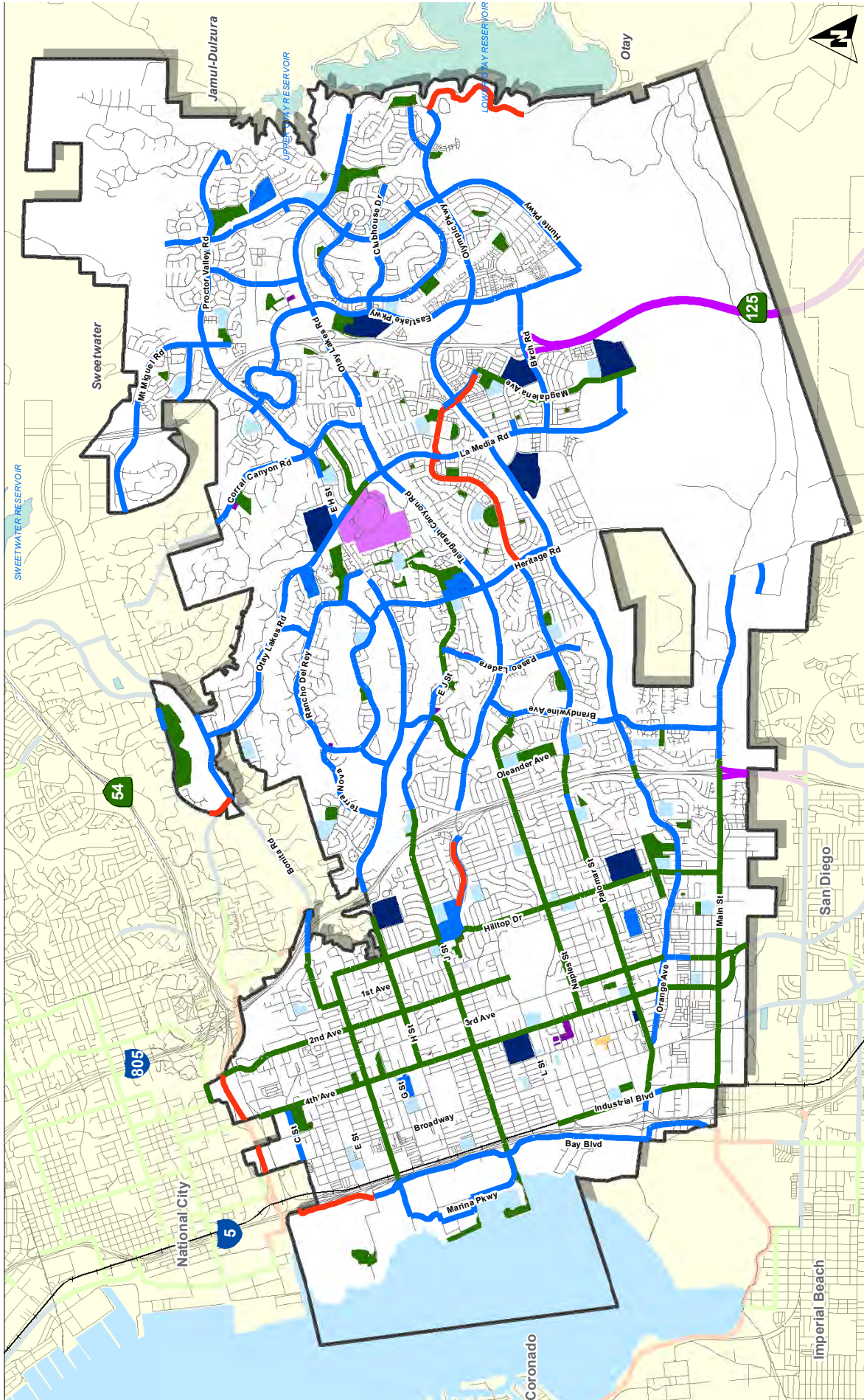
### Design Guidelines:














- Wider than standard outside lane recommended.
- Because bicyclists are permitted on all roadways (except prohibited freeways), bicycle routes should offer a higher degree of service than other streets.
- Center of Sharrow marking should be at minimum of 11' from curb face.
- Sharrows are only approved for use in the CA MUTCD on streets that have on-street parking.

References:  
Caltrans Chapter 1000, California MUTCD (Revised 2006), MUTCD 2009



Figure 1: Existing Bicycle Facilities



- |   |                     |   |                     |   |                    |   |                        |
|---|---------------------|---|---------------------|---|--------------------|---|------------------------|
|  | City of Chula Vista |  | Class 1: Bike Path  |  | Elementary School  |  | Junior College         |
|  | Railroad            |  | Class 2: Bike Lanes |  | Middle School      |  | School District Office |
|  | Lakes               |  | Class 3: Bike Route |  | Senior High School |  | Other School           |
|   |                     |  | Freeway Shoulder    |   |                    |   |                        |

The MTS board of directors is made up of members appointed from the city councils of member cities and the County of San Diego. MTS determines the routes, fares, frequency of service and hours of operation for regional services.

### **San Diego Association of Governments (SANDAG)**

SANDAG is an association of the 18 cities and county government in the San Diego region. SANDAG directors are mayors, council members and a county supervisor representing each of the area's 19 local governments. This public agency serves as the region's primary planning and research organization, developing strategic plans, obtaining and allocating resources and providing information on a broad range of topics pertinent to the San Diego region's quality of life.

In coordination with MTS, SANDAG annually prepares and updates the Regional Transportation Plan (RTP) for the region. The plan covers all transit services and facilities in the MTS area, providing policy, planning and programming guidance.

SANDAG administers the \$3.3 billion TransNet program, the region's half-cent sales tax dedicated to regional transportation projects. All San Diego County's 18 cities and county communities benefit from the TransNet program, which has helped fund a variety of highway, transit, local streets and roads and bicycle projects throughout the region. One million dollars a year are set aside for bicycle projects.

